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EDITORIAL

Post War Planning

It is a pleasure to see and hear of so many people in organizations or groups who are studying Post War Planning for it is only by planning now for the post-war period that we stand a chance of not only bringing into being a world worthwhile but of even averting a crisis. The war situation looks much better, so much better that many people are figuring on a cessation of hostilities, at least with Germany and Italy this year. It may look like that at the moment but no one can tell and it will be just as well if we redouble our efforts to win the war and, at the same time, plan for the peace. We shall not have won the war if we fail to take advantage of the opportunity for a real peace, a peace in which the war weary world can glimpse a long period of peace, not only from war but from many of the things that made life unendurable for many people in pre-war days. It seems a pity that the Dominion Government is organizing a "Political Committee" for this purpose rather than a Commission outside politics which would have the opportunity of hearing all shades of opinion. Politicians generally are far behind public opinion and the result may be more or less disastrous. In Britain and in the United States as well as Canada, the average man is crying out for a better deal in every respect and it is only by correctly gauging this public opinion of the average man that politicians can begin to interpret just what the people want. There are many angles to Post War Planning that perhaps the average man does not clearly understand. He does not bother his head about tariffs and credits and so forth but what he does want is a world in which he can live at peace with no worry about recurring depressions. He wants security from unemployment, from want due to sickness or any other cause. He believes he has a right to a yearly vacation with pay and to a retirement pension when his work has been done. Many trade associations and business groups are already planning for post war development but are they taking into account the needs and wants of those they expect to work for them. Others are not worrying unduly about the post war period, they claim they have enough to do in filling war contracts now. That may be so but those who do not plan for the post war period, whether they be workers or employers are apt to find themselves left out in the cold when peace does come. And don't overlook the attitude of the boys in the armed forces either. Many of them remember all too well the difficult times they and their fathers and mothers endured during the last depression. They want no more of that it is up to you and I, every one of us, to so plan the peace that not only those in the armed forces but no individual will have to revert to the type of world we knew before the war. Very few people want such a world but we cannot get anywhere by mere wishful thinking and it is up to us to plan now.

Across the Secretary's Desk

Since the last issue of "Cost and Management" I have had the pleasure of a visit to Montreal and my many friends in the "Cost and Management Institute" or Montreal Chapter. The visit was short and the weather was none too good and in these days railway travel is anything but a pleasure, but I found plenty of inspiration through this visit and was indeed very pleased to renew many old friendships. Such fellows as Percy Wright, our President, Paul Kellogg, Don Patton, Walton Blunt, Charlie Dumas, Reg. Louthood, Eddie Loïselle, Tom Ashworth, Randall Herron and oh so many fellows with whom it is a delight to meet and talk and discuss Society affairs, not forgetting Vic Madge, the very efficient and aggressive President of the Cost and Management Institute. We held a Board Meeting at the Mount Royal Hotel with a luncheon meeting, after which we adjourned to my room to continue the discussion and it was really enjoyable to see the way these fellows thirst for news from headquarters. There are no more enthusiastic members of the Society than these boys in Montreal. I also had the pleasure of attending a regular meeting of the Institute at which Stan Farquharson, an old friend whom I met in Vancouver some years ago, led a discussion on Post War Planning. He was assisted by John W. Christie and Mr. Madge and I am afraid somewhat hampered by your truly who outlined the highlights of the Beveridge Report. It was all very interesting and enjoyable and the discussion period which followed was so interesting that I had to be rushed from the hallowed halls of McGill by car to Windsor Station in order to catch my train home. To the fellows in Montreal I can only say a simple thank you for a most enjoyable visit and my hope is that I did you as much good as you did me. My next week promises to be a most hectic time as I am scheduled to address the Kitchener and Windsor members in one week and to be present at a Joint Meeting of the Hamilton and Toronto chapters, but it will probably be worth all the hard work for, as Harold Wright recently said after addressing several Ontario chapters, the more I see of our members, the more I realize what a fine bunch of fellows they are. This week I have a most enjoyable task in addressing a get-together of our Toronto student members. It might be well for students in other chapters to stage an occasional get-together. Have just received a most welcome letter from Ronald Shute, Secretary of the Edmonton chapter. Ronald gives me good news of the chapter which is outlined in Chapter Notes. Just a word to the chapters generally regarding membership. I know that I will probably be accused of continuously harping on the need for membership, but if you fail in your quest for the Fernie Trophy don't say I didn't warn you. This Windsor chapter is really working hard in an effort to retain this trophy, so the rest of you had better watch out.

R.D.

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New Members

Windsor Chapter.

T. Markham, Chrysler Corp'n. of Canada Ltd.

A. Padmos, Ford Motor Co. of Canada Ltd.

Edmonton Chapter.

G. B. Thorn, Western Grocers Ltd., Edmonton.

G. Perring, Gainors Ltd., South Edmonton.

A. G. Aldridge, Edmonton.

London Chapter.

C. J. Munro, Sparton of Canada Ltd., London.

Personal Notes

Members generally will learn with regret of the indisposition of Col. R. R. Thompson of McGill University and a life member of the Society. Colonel Thompson has been a tower of strength to our Society for many years. He is a Past President and a Life Member of our Society and everyone will wish him a speedy recovery.

Recently Eddie Loiselle, a member of the Cost and Management Institute and a Vice-President of the Society suffered a sad bereavement in the loss of his wife. Already the sincere sympathy of the Board has been conveyed to him privately but we take this opportunity of extending the sympathy of all our members for we are sure that they join us in this thought.

Lorenzo Belanger of Montreal, a Past President of the Society and often referred to as the Dean of the Society, he is also a Life Member, has recovered sufficiently from his recent illness to be able to attend his office for some time daily. Our congratulations to him and here's hoping that his recovery is both complete and permanent.

The Hamilton chapter has lost a valued director and member in the person of Nelson Allan who has left the city to take up a position with the Reliance Aircraft and Tool Co. Ltd., Belleville. Good luck, Nelson, in all your doings. You are a grand fellow.

Literature Received

Accountancy as an Aid to Business.

The Federal Accountant, Dec. 1942.

A most complete and interesting article which covers almost all phases of Accountancy.

Managerial Volume Control.

The Australian Accountant, Dec., 1942.

Standard Production.

The Australian Accountant, Dec., 1942.

Two short but interesting articles. The first deals with the old

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question of Expense v. Volume while the second deals with the matter of standardized production.

Types of Office Forms and Their Design.

N.A.C.A., Feb. 1, 1943.

Here is an article which should be of interest to all those engaged in office positions of authority and particularly to accountants. Brings you up to date in the matter of office forms and should be a real help to anyone studying it.

The Imprest System Applied to Stores Accounting.

The Accountants' Journal, Nov., 1942.

A short article dealing intelligently with a most interesting subject.

Office Management.

Irish Accountant and Secretary.

A very complete and well-written article of interest to all office managers.

Chapter Notes

Montreal Chapter.

A very successful meeting of the Chapter was held on February 12th at the McGill Faculty Club, the chief speaker being Mr. Stan Farquharson, M.E.I.C., Resident Cost Accountant, Treasury Branch Dept. of Finance, on the subject, "Salvaging Production".

Mr. Farquharson was ably assisted by John W. Christie and Chairman Vic Madge. The subject was one dealing with postwar planning, and the General Secretary of the Society also gave a short talk on the Beveridge Report. The discussion period which followed was a delight and lasted until late—so late, in fact, that when last seen the General Secretary was searching for an automobile in order that he might catch the night train.

In all likelihood a committee of the Society will be formed to deal with the whole question of post-war planning.

Hamilton Chapter.

A special meeting of the Hamilton Chapter was held at the Royal Connaught Hotel on Wednesday, February 10th, and took the form of a discussion meeting dealing with the Beveridge Report and the Ruml Plan. The Secretary-Manager of the Society gave a short talk on the Beveridge Report. Frank J. Purdon did likewise in connection with the Ruml Plan.

Due to extremely bad weather the attendance was slight, but there was a tremendous amount of interest displayed in both subjects.

Edmonton Chapter.

The Edmonton Chapter held a very interesting meeting on February 10th, when the members were addressed by Mr. L. D. Hyndman, K.C., whose subject was "Mortgage Security in Alberta and Related Matters". The Chapter held a special meeting on February 17th at the Corona Hotel, when Mr. R. U. Beckman, Industrial Engineer of the George S. May Company of Chicago addressed a good attendance of members and guests. Both these meetings provoked considerable interest.

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Windsor Chapter.

The late January meeting of the Chapter was a pronounced success and attracted the largest attendance of the season to date. The speaker was Mr. R. J. Lyons of the Chrysler Corporation of Canada Ltd., who spoke on "Standard Costs on Government Contracts". Mr. Lyons gave a real exposition of the uses of Standard Costs and his talk was really enjoyed.

The February meeting of the Chapter was addressed by the Secretary-Manager of the Society, Mr. R. Dawson, who spoke on "Post War Planning With Special Reference to the Beveridge Report". Mr. Dawson gave an outline of what he thought was required to prevent a boom and to promote steady employment of the workers in the immediate post war period, and both his address and the discussion which followed were very much enjoyed.

Hamilton Chapter.

The February meeting of the Hamilton Chapter was a joint meeting with the Toronto Chapter and a number of the members of the Hamilton Branch of the National Office Management Association were also guests. The speaker was to have been Mr. Harold G. Cutright, Vice-President in charge of Finance, Standard Brands Inc., New York, but at the last moment the speaker could not be present owing to an infected foot. It was too late to obtain the services of an outside speaker, and so the Secretary-Manager of the Society jumped into the breach and did a swell job. He spoke on "Post War Planning", and at the conclusion he received a very hearty vote of thanks moved by Harry Metcalfe, chairman of the Toronto Chapter. Later the meeting went into an open discussion of the provisions of the new T.D. 2 Tax Questionnaire. The discussion was led by S. F. Saunders of the Toronto Chapter, and the whole meeting was a pronounced success. Over one hundred sat down to dinner.

Fort William-Port Arthur Chapter.

Members of the Chapter at the Head of the Lakes are in for a treat for their March meeting, for on this occasion the members will be addressed by the President of the Society of Industrial and Cost Accountants of Ontario, Mr. Harold P. Wright, R.I.A. Mr. Wright will speak on "The Registered Industrial Accountant, His Opportunities and Responsibilities". It should be one of the best meetings in the history of this progressive chapter and every member should make a point of being present. The exact date has not been set but all members will be notified.

Railway Costs

By H. C. REID, B.A., M.S. (Trans)

General Staistician, Canadian Pacific Railway,

Before The Cost and Management Institute, Montreal, Jan. 29th, 1943

Your organization is devoted to the study of costs and management, and it might be thought that the subject of my remarks to-night, Railway Costs, would merely present for your view another facet of a matter you have now examined many times. However, I am sure that the prospect is better than

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that and that you will find a discussion of railway cost problems stimulating provided I can do it justice.

Cost Accounting deals normally with articles or goods that are produced and then marketed. The problem is to know the true cost of production so that a profitable selling price may be set, or sometimes, in the light of an established price for a competitive article, to know true costs in order to be assured that they are sufficiently low to make a profit. These conceptions of costs are basic with many of you, I am sure, and it may therefore be interesting to discuss an industry where such aims seldom govern in analyses of costs.

Whereas the manufacturer may enter or retire from any field at will, may introduce new lines or discontinue old lines, may raise or lower prices generally or for individual customers, the railway is a common carrier and must sell transportation to all comers on demand and provide its services week in and week out at definite prices.

The product of a railway is the movement of goods and people between places and there is something elusive in such services that is apt to make the cost accountant feel that there is no place for him to start in his work.

Consider the Canadian Pacific Railway, with which I am associated. What cost factors do we wish to know? What are our needs?

We have a plant, 17,000 miles of railway extending across the continent and serving almost every city and producing area in Canada, 1,700 locomotives, 85,000 passenger and freight cars, repair shops and all the other property needed to run a railway as well as the various auxiliary services.

We need to know the cost of maintaining the property and of many features in the operation of trains, terminals and stations, and I can assure you that in their work railway officers suffer from no lack of cost information. The details available are many and varied so that the difficulty is rather one of marshalling and appraising them.

Railway Accounting Procedure.

Uniform accounting and statistical classifications have been adopted or approved by public authority, and as a result of consistent use, those interested have a clear picture of what is comprised in the various accounts.

Railway accounts are drawn up primarily for the purpose of control, not of costing. The method of control is founded on budgeting, and daily, weekly and monthly reports of expenditures, statistical data and unit costs placed at the disposal of experienced supervisory staffs.

The accounting for expenditures is much the same on all railways, and in order to be specific I shall outline the procedure on the Canadian Pacific.

The system is divided at Port Arthur into two regions known as Lines East and Lines West. These are divided into districts, roughly corresponding to the provinces, and there are six districts on Lines East and four on Lines West. The districts are divided into divisions, of which there are thirty in the system, or an average of three per district.

There are ten accounting offices located at the ten district headquarters, plus one for Angus Shops. These offices handle the disbursement accounting and render their reports to the Auditor of Disbursements in Montreal. Accounting for revenues is centralized for the entire system

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in Montreal, where the reports of all the station agents and conductors are sent.

The district accountants make the distribution of labor, material and other charges to the accounts and bills from other departments and outside parties. The distributions find their way chiefly into the operating expense accounts and also into bills against other departments and outside parties, clearing and suspense accounts and capital expenditure accounts.

Railway operating expenses are divided into six general accounts, of which three are most important and chiefly concern the district accountants. These are: (1) Maintenance of Way and Structures, to which is charged wages of track and building labor and the materials used by them; (2) Maintenance of Equipment, to which is charged the wages of staff repairing locomotives and cars and the material used by them; (3) Transportation, to which is charged the wages of train and engine crews, roundhouse, yard and station staffs, as well as locomotive fuel and other supplies used or handled by these employees.

Monthly statements of maintenance and transportation expenses are made for each superintendent's division. These show expenditures by primary accounts, of which there are some 108 among the general accounts under discussion. The monthly statement includes comparisons with the same month last year and certain statistics of operation to which the expenses can be related.

Similar statements are made for the entire district.

The accounts are consolidated in Montreal from monthly reports submitted by the eleven accountants, together with head office charges such as traffic and general expenses, depreciation and taxes, which do not fall within the superintendent's responsibility.

Revenues are compiled for Eastern and Western Lines and statements are issued showing the revenues and expenses for these regions and also for the System.

Budgeting.

Budgeting arrangements are built to some degree around annual programs. This holds for new projects and equipment, the renewal of rails and ties and the painting and repair of bridges and buildings. These programs are a result of compromise between the engineers' opinions of what the property requires and the management's opinion of what expenditure can be allowed.

From month to month for such classes of work as track, bridge and building maintenance, certain forces are authorized for each section of the property and the authorities may not be exceeded except as a result of storms, wrecks and the like.

In other fields the volume of traffic governs the budget. Locomotive repairs are related closely to the mileage made. Repairs at roundhouses are made between trips by local staffs maintained in employment by authority of a budget allotment. Heavy overhauls at main shops are made on the basis of inspection reports and arise after a certain mileage has been run that can be closely anticipated. Car repairs can be foreseen well ahead of time. The budgeting of running repairs and cleaning is handled by the

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number of mechanics and carmen authorized at various points on the line, while shop overhauls are handled by programs planned well in advance.

In train operation the emphasis is placed on statistical control. The objective is to provide each responsible operating official with comparative statements showing expenditures each month and the same month last year for the services that he supervises, together with unit costs and statistical summaries bearing on his territory. For the various kinds of expenses there are appropriate statistical measures for effective control.

Statistical Control.

It may surprise you to know that operating revenues are not compiled for individual superintendents' divisions, of which on the Canadian Pacific, as I have said, there are 30. However, revenues are available for traffic originating and terminating at each station. These figures, together with statistics of L.C.L. tonnage handled, are used as a measure from month to month and year to year of the appropriate number of staff to be employed at the various stations.

The superintendent's operating expenses are made up insofar as they are under his jurisdiction, but a divisional basis is not maintained for such things as repairs to equipment handled in the main shops, traffic solicitation, general accounting, taxes, depreciation and the like. Thus the superintendent never knows how expenses compare with revenues on his division. The superintendent's product is generally viewed to be gross ton miles defined as the weight of everything the engine hauls, cars and freight, multiplied by distance. The reasoning here is that it is his duty to move low revenue traffic as well as first class traffic. Therefore his expenses are measured in terms of unit cost per gross ton mile produced and also other like statistical units.

Owing to the very intangible nature of the railway product, namely transportation, certain statistical averages have been adopted as being tests of general operating efficiency. One of these is the relationship of fuel consumption in freight service to gross ton miles. A record of fuel consumed in the movement of each freight train is furnished by the engineer and figures for all trains over the section of line under study are totalled and the average fuel consumption in pounds for 1000 gross ton miles obtained. This average has come steadily down for years, partly owing to improvements in locomotives, partly to securing better loading of trains in relationship to the potential load, and partly to improved operating practices, train dispatching, etc.

Another average somewhat akin to this that has gained a considerable following is gross ton miles per train hour of freight trains. Many officers place great emphasis on this as a measure of production. Train hours represent the time the train is on the road between departure from the initial terminal and arrival at the final terminal, and meets, delays and way switching are factors that increase train hours. Reductions in the elapsed time improve the average provided tonnage is not sacrificed to gain speed. If train tonnage can be added and speed increased at the same time, then the two features will combine to raise the average gross ton miles per train hour. However, there are some qualifications and an improvement in the

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average may not always be a sign of increased efficiency or reduced unit costs.

Elements of Cost Accounting.

There are a number of features of the railway classification that point in the direction of cost accounting. Casualty and stationery and printing accounts are provided for the principal general accounts. Joint facility accounts, of which I am about to speak, are maintained. Yard switching expenses are shown distinct from train operating costs. Certain costing accounts have, however, been abolished within the last few years. For example, charges were formerly made to the cost of a new project for the estimated cost of hauling construction material with a concurrent credit to operating expenses. While this may stand up in theory, it was not found to assist efficiency in any way and has been recently discontinued. Formerly a rental was charged to the cost of the project for locomotives and cars used at construction jobs, but this is no longer done. For some years it was the practice to charge interest on the capital from time to time tied up in projects under construction as part of the cost, crediting the carrier's income, but this, while a defensible practice, is no longer permitted under the rules.

These revisions are after all matters of detail. At the same time improvements have been made by extending depreciation accounting to all depreciable property. Depreciation accounting has been in effect for some time for locomotives and cars and recently has been applied to shop machinery, power plants, signals, bridges, station and office buildings, telegraph equipment and the like. The result of this will be a truer picture of costs.

Certain departmental statements are currently made up. I have mentioned that revenue and expense statements are made for the two main regions of the railway. Statements are also issued for the communications department, express operations, sleeping and parlor cars, dining and buffet cars, news service, restaurants, hotels, land department, lumber mills, office buildings, abattoirs, Great Lakes and B. C. lake and river services, and coastal steamship services. Each of these shows revenues and expenses and is a product of extensive interdepartmental billing and apportionments of many kinds.

Joint Facilities.

The railways have many joint operating facilities where costs must be apportioned among the users. A familiar example of a joint facility is Windsor Station of the Canadian Pacific, which is used also by the New York Central and Delaware & Hudson Railroads. Generally speaking, the plan for dividing the expenses begins with a valuation placed on the joint premises, which, depending on the circumstances surrounding the agreement, may be based on cost of construction or appraisal. A going interest rate, perhaps 5%, is named in the agreement and the users generally pay that rate of interest on their share of the valuation which may be set out in the agreement as a certain standing proportion or may be based on fluctuating degrees of use by the parties.

In a typical station and over the joint tracks entering it, each railway operates trains and as a matter of course stands the direct expenses of

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crew wages, fuel and provision of engines and cars. The owning company maintains the tracks and station buildings and pays the gatemen and possibly ticket sellers. It is an almost universal custom on this continent to divide such expenses on what is called a wheelage basis, but with few exceptions it is not the number of wheels that is counted, but the number of units of equipment entering and leaving the joint premises. Sometimes in recognition of their relative weight engines are counted as two units, but generally all engines and cars are simply counted on every inbound and outbound train. Then the ration of the tenant company's wheelage to total wheelage is the measure of the share of joint expenses that it is to bear. The complications of ascertaining and apportioning overheads are minimized by the practice of adding surcharges to direct expenses. The railways have mutual agreements that in the absence of special provisions, 10% will be added to labor charges and 15% to the cost of material to cover supervision and other expenses not directly charged, with some modifications for special kinds of labor and material. The understanding among the railways is that joint facility bills cover cost, but do not include the element of profit.

From this sketchy description of joint facility accounting practice, it will be seen that a division of costs is obtained by arbitrary rules which, however, are acknowledged to be a fair basis for division of costs between the users. The parties to whom bills are rendered are entitled to have access to records of the accounting company for the purpose of checking.

Shop Accounting.

In the main repair shops opportunities for the application of cost accounting principles are present. Systems in use are based on practices developed long before the science of cost accounting was given a name. That is one reason why commercial accountants are puzzled by railway methods. There is a natural tendency not to cast out established and well understood practices in order to start afresh, but rather to modernize the existing practices.

It is necessary, of course, to cost such work as construction of cars or betterments to locomotives and cars as well as material manufactured for repair purposes and carried in stock till needed. Some betterment work is capitalized at standard costs without ascertaining the exact cost on every unit of equipment to which some standard improvement is being applied.

A record is kept of overhaul expenditures on each locomotive. This is built up by adding to direct labor and direct material, as shown on time cards and stores requisitions, a pro rata share of shop expense. This term embraces shop supervision, supplies, light, heat, power and common labor such as cleaning shop, but does not embrace repairs to machinery and buildings, depreciation and a number of items which under the railway classification are charged to operating expense accounts and not pro rated at any stage. The pricing of direct material includes a surcharge covering material store expense.

A record is also compiled of the locomotive mileage of each engine. With these figures the repair costs per mile are watched for each class of

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power and experience with alternative types that may be used in various services can be thus recorded statistically.

The railways repair the passenger and freight cars of other companies on their line when need arises, and charges are rendered on a non-profit basis set out in a schedule of prices published by the association of which all railways on the continent are members.

Present Railway Trends.

I have thought back on the modifications either made or discussed in the last few years in railway shop accounting and am bound to say that if anything there seems to be a backing away from the standing temptation to go all the way on cost accounting.

A major obstacle to true or complete costing in the railway field is that overhead and joint costs permeate through the expenses to an exceptional extent. For example, so far as the movement of a single carload of freight is concerned, all maintenance, both of tracks and of equipment, is assignable only as overhead, while even in respect of the expenses of the train in which the car moves, not one cent can be directly assigned to one particular carload. As for the movement of a single passenger, it is seldom that there is any direct expense unless we say that the cost of printing the ticket is direct, and even that may be disputed.

Possibly at this point some of you may be thinking that there are principles of cost accounting that overcome most of the apparent difficulties of which I have spoken. For example, while the expense of handling one passenger cannot be distinguished, the expense of handling all the passengers in a train can be ascertained to a sufficient degree to make an apportionment of the remaining indirect costs quite reasonable. Likewise, direct costs for a whole freight train can be found and a proportion of other costs added.

Cost Studies.

As a matter of fact we do pursue costing on a case study basis along these lines, but always with full awareness of its weakness and even futility in many instances because of the second major obstacle to maintaining a full railway costing system. This obstacle is the violent changes from period to period in the quantity of transportation carried out by the railway in contrast with the large proportion of costs in any individual study that are of an almost fixed nature.

How do we proceed to estimate the cost of operating a special passenger train? A statement is obtained showing the equipment in the train and the schedule, and from this the necessary statistics are computed, including train miles, locomotive miles, car miles, ton miles and estimated fuel consumption.

The main single item of direct expense, namely crew wages, may then be ascertained and also the cost of the locomotive fuel. Water for the locomotive may be drawn from a standpipe served by a municipal water system or from a tank served by a railway installation. However, it is not our practice to attempt to estimate on the basis of cost at the water stations involved. The quantity consumed by the engine would have to be estimated and a miniature cost study might also be necessary. The method followed is to relate water expenses to fuel expenses for a representative past period for the district on which the movement is taking place and estimate water

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expenses as being that ratio of fuel expenses. Enginehouse expenses, lubricants and engine supplies are provided for at representative rates per locomotive mile.

For a single special train one cleaning of each car is allowed for at the average rate per car for a recent period at the terminal where the servicing is done. For station heating the average cost per 1,000 car miles for the preceding year is the basis, but if the movement occurs in the summer season nothing is added, while for a winter movement, double the average yearly cost is included. Lighting, icing and watering are provided for also at average yearly costs per 1,000 car miles available in regular statistical forms.

Locomotive repairs are divided into two classes, known as shop and running. Running repairs are the daily adjustments handled at the local roundhouse and are estimated for a special movement at the average cost per locomotive mile for the district for the previous year. These repairs are found to vary not so much according to the class of power as according to the condition of individual engines. The other type of repair—shop repairs—is the periodical overhaul in the main shops and in a cost study is provided for on the basis of average costs per locomotive mile giving due weight to the size of the power.

Passenger car repairs are estimated at the average rate per car mile for the previous year for the various kinds of cars in the train. Yard switching is provided for in the study on the basis of estimated switching time required at a cost per engine hour appropriate for the terminals involved. An allowance for track maintenance is included at a fair rate per 1,000 gross ton miles for the equipment in the train.

The extent to which other overheads will be assessed against the movement depends on the purpose of the study. If the train is for, say, an employees' picnic, a minimum will be allowed, while for a normal revenue movement, provision will be made for all costs, including interest on investment.

Not only is there room for variation in the extent to which overhead is added to the cost of a movement, but there are choices in the apportionment factors used for different joint costs. How much, for example, should be included in a cost statement for maintenance of tracks and buildings, an expense that amounts to from 15% to 20% of operating expenses? The wear and tear on track is ascribable for the most part to the movement of engines and cars and the expense could be apportioned according to the number of wheels passing over the rails, although the wear occasioned by a locomotive wheel must be greater than caused by a caboose wheel and the wheels of a loaded freight car would cause more wear than those of an empty car. Another way to apportion the expense is by the weight of the locomotives and cars, that is to say by the gross ton miles of locomotives and cars, and this is the measure prescribed for making the separation of expenses between freight and passenger services.

Another knotty problem is an allowance for depreciation. Normally the equipment used in a special train would be idle otherwise and so there is a temptation at times to pass up the depreciation expense. If it is to be assessed, then the question arises whether it should be computed on a time

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basis or on a mileage basis, and very different figures may be produced according to which is chosen.

Altogether there are many features in a study where alternative bases for apportioning joint costs may be considered, each of which may be defended by plausible reasoning.

For a long period there was a dominant school of thought in railway circles that part of railway expenses was variable and part fixed and that about half fell in each category. However, more recently there has been a turning away from this theory to the one that all expenses are variable with traffic over a period of time. In the United States total revenues in 1933 were about half of those of 1929 and expenses also fell almost in the same proportion. Railroad managements are human enough to measure their outlays by their income. Railways are likely to live up to their income much as an individual does. Expenditures rise as revenues rise and fall as revenues fall. In bad times old stations and equipment are made to last, but in good times the old models are scrapped for new. In bad times shabbiness in the property may be endured to a degree that would not be thought of when business was good. During short upsurges or slumps in traffic, however, it is found that only a part of the expenses is affected and the balance is unchanged.

Someone will say that the railway should nevertheless know the economic results of all aspects of its service to the public. Management then knows what services to push and what to watch with a jaundiced eye. I agree with this view as a principle, but after some years of close contact with these problems see two obstacles in the way of putting the principle into practice. The first is the lack of agreement as to what are the costs assignable to various railway services and the second is that the task would have no bounds.

Separation of Expenses Between Freight and Passenger Services.

In response to any of you who may say that disagreement as to costing methods on a railway cannot be any more serious than in an industry where, as those concerned become more conversant with the subject, differences of opinion largely disappear, I must insist that the analogy does not hold. As one example let us take the broad question of the division of operating expenses between freight and passenger train services. The revenues from the respective services are of course available. In 1920, the Interstate Commerce Commission of the United States, making use of its powers over railway accounts, attempted to advance the cause of cost accounting to some degree by prescribing that all railroads should maintain currently a separation of expenses between freight and passenger services on the basis of definite rules. This work has been subsequently carried on and the I.C.C. annually publishes the results. Passenger service for United States Roads as a whole appears to lose money year after year and of the 20 railways leading in passenger train revenue in 1941, 15 failed to make ends meet on passenger service even before taxes and interest, according to figures published by the I.C.C. Roads showing losses included such solvent companies as New York Central, Baltimore & Ohio, Union Pacific, Santa Fe and Southern Pacific. The story has been much the same for many years, and yet these railways take no steps to eliminate passenger service, but rather

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maintain extensive organizations to promote it and buy the most costly and luxurious equipment. Why is this? Apparently it is because the answer shown by the formula is not conclusive in determining policy. The factors of public relations and obligations are of great weight in passenger service standards. However, passenger train service has been causing much worry in recent years and these statements of passenger train revenues and expenses do not make cheerful reading even when discounted. Nevertheless, there is practically nothing that railway officers can do after being confronted with a statement showing a loss on passenger services or any other service that they would not already be doing. Railroads are always experimenting with various schemes and types of equipment that may help solve the passenger service problem.

In contrast, let us look at the freight picture. The same I.C.C. formula of course provides a comparison of freight revenue and the freight proportion of expenses and shows for the large U.S. roads substantial surpluses in every case. Yet little if any regard is given to such figures in discussions of freight rates.

The only thing the railway men will agree on is the overall picture. The total operating revenues and total operating expenses are correct, but an assignment of these expenses over various kinds of traffic will be forever a matter of open dispute.

Cost Accounting Possibilities.

Proposals have been made that the Interstate Commerce Commission should establish a cost accounting classification for railroads, and hearings were held back in 1929. It developed, however, that up to that time no one had yet drawn up a complete system for railways nor did the reasons of the advocates for pressing the matter seem convincing in face of railroad opposition.

Two general reasons were advanced. The first was that costing would provide a proper analysis of railway expenses and assist those interested to judge whether the management of the railroads was actually honest, efficient and economical, to use the phrase adopted in the Interstate Commerce Act. For one thing, it was thought that there would be available properly computed costs for overhaul or construction of equipment in railway shops which could then be compared with bids for similar work by outside shops. Allegations had been made that for some railroads the practice of doing their own heavy work was uneconomical. To these claims the railroads replied that the advantages anticipated were far-fetched. Their most weighty reason for so saying was that no one was as much interested in the honest, efficient and economical management of railroads as the railroads themselves because their prosperity depended on these virtues, and it followed that they would be the first to seize on improved methods of controlling costs.

The second argument advanced for cost accounting for railroads was the more weighty one that the actual cost of various transportation services rendered would be found and the information would be useful in rate cases. It has been a standing complaint of regulatory and public bodies that railway cost studies were always made with an end in view, and it is claimed that if the studies were practically ready made in the railway's routine account-

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ing more reliance would be placed on the figures. However, there are two criticisms of this argument. The first is that proponents of railway cost accounting were forced to admit that cost studies would still be as necessary as before. Secondly, freight rates are not based solely on cost of service. This is only one of sixteen or seventeen factors in rate making, and those who think rates are or should be governed solely by cost of service are under a delusion. On that basis many communities on thin traffic branch lines would be loaded with throttling freight rates which are avoided by the ability of traffic on main routes to carry rates high enough to offset losses on other routes.

Whether I have been brave or merely foolhardy, I have been so bold as to come among a group of cost accountants and explain why routine cost accounting has only a limited application in the transportation field. So now I am expecting to face a barrage of criticism which I trust will not be overwhelming.

Traffic Management in Modern Industry in Wartime

Address by

GUY TOOMBS

President Guy Toombs Limited

Delivered to the

COST AND MANAGEMENT INSTITUTE AT MONTREAL,
OCTOBER 30, 1942.

It may be a presumption; nevertheless it is a distinct honour and privilege to address this fine body, for which I am indebted to your talented and versatile President. I may appear to be passing lightly over those far too kind words of introduction. There is a saying, however, in the East, that one good word can warm three winter months, and if that be so I need no longer worry over the family fuel situation.

It fell to my lot a couple of years ago to preside over an anniversary dinner of traffic men in a city outside of this Province, during which the guest of honour, a retired industrialist, casually asked "What do all these men do?" I began to explain that they directed traffic by the best available routes and methods, to which—to my surprise—he remarked with a wave of his hand, "Oh, I thought the railway men do all that."

Perhaps, therefore, I should begin by explaining the functions of an Industrial Traffic Manager. Briefly, his main responsibility at all times, in war or in peace, is that of ensuring the prompt and efficient movement of the necessary raw materials from their various originating points to the plant or warehouse of his employers, and conversely of the finished product, through to its ultimate destination, under fair rates and charges; eternal vigilance being the price of safety.

He will also learn all he can about his own product, its proper packing and loading (domestic and export)—the necessity of keeping the weight of the container down to the minimum of safety—co-operate with the different

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transport agencies down to the switching crews and if he is wise keep in with the Sales Manager and the Purchasing Agent.

I don't believe a certain Purchasing Agent ever quite forgave me for once resurrecting a batch of old paid freight bills and recovering \$4,253.45 in overcharges for his Company.

Now Mr. Chairman and Gentlemen: One who travels frequently across the country might be pardoned for feeling that in many quarters the problem of distribution is at least equal to that of production. It is also a problem from a cost standpoint. Two or three years ago a special research staff of the 20th Century Fund found that 50 cents in each consumer's dollar went for the services of distribution and only 41 cents for the services of production. I do not know what factors were included in this survey but possibly sales to wholesale or intermediary dealers were included, matters which do not come under my purview. I am however able from records at hand to submit a few actual comparisons, with the object of arousing, and I hope retaining, your interest in the problems and rising costs of transport.

I find that one-third of the production costs of one large manufacturer is chargeable to freights. On his largest ingredient, a low grade commodity, representing 73% of the finished article, the freight charges run as high as 82% of the total laid down cost of that ingredient.

Moulding sand is an important item in war production. Of the laid down cost in this district the freight charges run between 60 and 65%.

Another important item is American slack coal, moving by rail and water; 60% of the landed costs in the Montreal area go for freight charges. I suppose 100,000 tons are delivered yearly in the Saguenay district. In war time the proportion there runs up to 70%.

A large industry, I believe the largest in Canada, shipping and receiving extensively by both rail and water, estimates its freight costs at 30% of the entire operation, and so on.

The early Industrial Traffic Manager antedated the efficiency expert and was about as popular.

I well remember my first Industrial Traffic Manager. It was more than 40 years ago when I was a young fellow quoting local rates in the old Grand Trunk City Freight Office here and a dapper little man walked in and presented a card reading Charles H. Tiffany, Traffic Manager, Burgess Sulphite Co. of Berlin, N.H.

He procured a basis of rates on newsprint paper from Berlin to Chicago and points in the Middle West, which rates about 5 years later as General Freight Agent of the little Great Northern, familiarly known as "le maudit Grand Nord", soon to be absorbed by the Canadian Northern, later on the Canadian National, I established from Grand'Mere and Shawinigan Falls, where the first large Canadian newsprint mills were developing and these old "Berlin" rates, although attacked many times, remain the basis to-day for our huge eastern newsprint industry. Incidentally I became a friend of Mr. Tiffany, who was also a bit of a poet, and many years later, when the Brown Corporation, which succeeded the Burgess Company, were negotiating for a mill site at LaTuque I gave his successor the benefit of the old basis. As I proceed you will probably realize that the wartime traffic manager has little time for poetry.

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This reminder of earlier and happier days when this Continent was in the throes of expansion, prompts me to add that in searching for traffic for my little, hard-pressed road, I had the good fortune to accompany on many occasions the American and other business men and engineers responsible for the huge developments at Grand'Mere, Shawinigan, Donnacona, LaTuque, The Grande Discharge and later Arvida. These recollections bring out a point which I think should not be lost sight of, especially at a time when we are so beholden to our neighbours for raw materials and communications with overseas. Their ports are freely opened to us. We usually get a fair share of the ocean space and I believe of the raw materials available. The point is this that the resources of our near North were developed in the period I refer to mainly by American capital and technicians. Canada had previously gone to Britain and the States for not only funds for railway construction, but also for the operating officials. Many of these men remained in this country, being numbered among our most valuable and loyal citizens. Some indeed lost their money and wore themselves out in the struggle for survival; the inescapable price paid by the pioneer.

No one knows what is ahead of us or what our position will be in the new line-up. One thing is sure, it would be calamitous if the impression went out that we no longer welcomed or respected outside capital, brains or brawn.

The early industrial traffic manager, usually recruited from some railway, shipped by rail or by water, or both. The present 6,000 Traffic Executives in the United States and the 600 or more in Canada must consider a multitude of rates and rulings and in addition the possible advantages of truck routes, pool-cars and packages, airways, express, parcel post, pipe-lines foreign exchange, insurance risks, general average, draw-backs and a host of combinations, rules and practices, government orders, permits, priorities, embargoes, customs tariffs and restrictions of all kinds, not only of this continent but those of the remaining countries in the free world with which a limited business is still being conducted. The traffic manager must also be ready on a minute's notice to work out for his Chief, itineraries by road, air, train or bus, and produce out of a hat as it were, sleeper, air and hotel accommodation. If an air journey to South America is contemplated this may take months to arrange and even with the tickets in one's possession, seats cannot be guaranteed.

The transport blockades of the First World War convinced industrial traffic managers on this Continent to follow the example of the carriers and form National, Regional and Commodity groups for their own protection, for education and for uniform and united action before and in co-operation with the various governing authorities and with the carriers. The efforts of the larger Boards of Trade, the Canadian Manufacturers Association, the Canadian Pulp and Paper Association, the Canadian Industrial Traffic League, will readily come to your mind. May I give an example or two. The Transport Control authorities in the United States and Canada have been stressing that to avoid a car shortage the heavier loading of railway freight cars is necessary. (Our relations with the United States are so close, 70% of our imported goods now originate there and most of our commercial

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import and export business is now done through American ports, that we are more than ever affected by their complex transport problems and regulations). To return to the problem of heavier car loading. Instead of an immediate mandatory order without discussion shippers were effectively represented here by qualified traffic men from the organizations already mentioned and apparently an understanding arrived at with the Transport Controller and the railway authorities, which would ensure heavier loading and a consequent better use of equipment always with due regard to the handling of the commodity without damage.

A day or two previous I sat in with the Canadian Pulp and Paper Association, when it agreed with Canadian and American authorities on specifications which would ensure even heavier carloading than at present by this important industry.

It was announced two days ago that this maximum car-loading order had been postponed until November 30th and it is possible some changes are being considered. To avoid priorities or rationing in freight cars we must accept in the general interest the loss of long-established car-load minima in spite of inconveniences or hardships, but it is advisable for each Traffic Manager to keep a record of any additional expense in loading or unloading, also a close check on his freight charges, particularly where cars are not loaded to the practical visible capacity after the utmost has been done to comply with the Order. The Order takes effect in the United States on November 1st but it is hoped that it will not apply on exports or imports because, as I shall point out later, overseas traffic is already controlled by government regulations. Exporters, however, would be well advised to revise their sales practices to permit of compliance with the Order. According to fears expressed by prominent shippers in the United States it will be surprising if this Order does not materially increase their delivery costs. If, for example, a shipper has a 30,000 lbs. order, which is his old established minimum, and all his customer can handle, and the box-car furnished will carry 60,000 lbs. or more, the feeling in the States is that the shipment will be refused even at the less carload rates because the rail carrier would consider it was still a carload shipment in the recognized sense and that the car must be loaded to its practical visible capacity. Apparently the easiest way in the States—whatever may be the final arrangement in Canada—for this shipper to get his 15 tons away would be to divide it into smaller lots and send them to the freight shed, preferably on different days and on separate bills of lading, in which event he could legally demand the L.C.L. rates on the actual weight. This, of course, would delay the shipment and might require better protection of the commodity on account of being shipped along with other goods in what we used to call a "wayfreight" car and subject also to transshipment at some junction. The only way apparently the shipper could get his 30,000 lbs. away promptly and at the CL. rate would be to load up the car to the agreed visible capacity either with his own goods or those of some other shipper in the same town and going to the same destination (the American railways would help him to find such a partner) or if there were no other shipper in his locality the shipment could start off in a car by prior arrangement and by stopping off at not exceeding three points in the same direction to either complete loading or unloading—

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a practice which I do not believe is permitted in Canada but something of the kind will be necessary if the Order is to be carried out without too much hardship to the shipper or consignee. As you will understand, if any of these procedures are necessary it will also mean delays in shipment and possibly delays to the car thereby offsetting some of the benefits desired. I hope I have not gone into this too fully with this particular audience but you are interested in everything pertaining to costs and I am sure our War-time Prices & Trade Board which, like other War Boards is strong on realities, will not overlook the potentialities of this Order.

It is hardly necessary for me to say to this intelligent group who realize the benefits of Associations that I unreservedly recommend membership in active Traffic organizations, where good fellowship and much helpful information are to be found. Perhaps, however, a clearer example of successful united action should be given. As you know, in Canada the Wartime Prices and Trade Board, one of the great regulatory organizations, has, generally speaking, frozen prices to avoid inflation. Their orders recognized for the first time in history that in dealing with maximum prices, transport charges should receive the consideration granted other costs and prices. The American railways were faced with strong demands for wage increases contrary to the position in Canada where a "cost-of-living" bonus agreement was in force. The American railways, under Order I.C.C. Ex Parte 148, and later the truck operators and the express companies obtained permission to increase their rates and the Board of Transport Commissioners, with the approval of the Wartime Prices and Trade Board agreed with the Canadian railways to increase international freight rates between the two countries on the same basis, namely 6%, with certain exceptions. This decision was not objected to by the Canadian shippers but when the Canadian railways attempted to increase export and import freight rates to and from Canadian ports, alleging that they bore a relationship to rates to and from the American ports which had just been increased 6%, shippers' organizations appealed successfully.

A new problem has just arisen. On October 21st President Roosevelt signed Revenue Bill H.R. 7378, which included, effective December 1st, a Tax of 3% on Freight and Express charges, except as to coal, on which a tax of four cents per ton was imposed. How this tax will be applied on our international traffic remains to be seen.

Until the advent of the railway and the steamship, man seldom travelled at a speed greater than four miles an hour. In 1809 the first steamboat on the St. Lawrence only travelled at the rate of five miles per hour between Montreal and Quebec.

The idea that the government should help people to move about more freely and to transport their goods more easily, kindled slowly although ultimately it became a holocaust and nearly our undoing. During the Great War the Canadian Northern and Grand Trunk Pacific were taken over by the Dominion Government and combined with the Inter-Colonial and later the Grand Trunk and several unprofitable small lines, leaving us with the two main systems with which you are so familiar and a substantial peacetime transportation problem. Forced by our industrial expansion, by new rapid and more flexible forms of transport and by competition between

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themselves, the railways have been practically rebuilt since the last War. In 1914 the average freight train hauled 350 tons of freight; to-day it is something over 550, which will be increased by the new maximum loading regulations already mentioned.

In 1914 the average speed was 10 miles per hour; to-day it is 17 miles. These are averages. On main lines many freights operate at passenger train speeds.

In 1914 it required 11 days for "manifest" carload freight and 14 for L.C.L. merchandise to travel from Montreal to Vancouver against 7 to-day. L.C.L. shipments from Montreal to Toronto were promised second morning delivery but more likely the third, now they are consolidated into merchandise cars and actually delivered to the consignee's door next morning. Winnipeg L.C.L. shipments took fully 10 days from Montreal; now fourth morning delivery is the schedule.

(I pause here for breath, also in fairness to the truck operator, to say that he argues, with some reason, that his fast services, not only brought about this speeding up, but also the inauguration of free pick-up and delivery, and C.O.D. collections by the railways, the acceptance of lighter containers and finally the system of contract rates between shippers and railways, known as "Agreed Charges").

The construction of huge new defence plants has thrown new burdens on all our facilities and amenities but beyond saying what a grand job the railways and the other carriers are doing moving twice as much as during the previous War, I must pass on to other forms of transport.

WATERWAYS

Next to human muscle water transport is undoubtedly the oldest form in existence. It enabled our early explorers and traders to penetrate through to the Rockies and down to the Gulf of Mexico. The cheaper the transportation the wider the circle in which business may be transacted. The industrial traffic manager knows full well that the waterways offer this cheap transportation but his plant or his product may not permit their use to advantage. Through rates are in effect via water and rail to the prairies and to the Pacific Coast. The package freighters to Quebec and up the Lakes are controlled by one company which maintains an excellent and co-operative service at favourable rates, which are related to the existing rail rates. The time by water Montreal to Fort William is 7 days (Winnipeg 10th day); to Toronto 42 hours; to Quebec overnight and to and from New York 60 hours. The vast ore, coal and grain fleets, many of whose boats have been requisitioned for war services outside, carry millions of tons of essential materials and supplies at set cargo rates and priorities recently established by the authorities. Inland and Coastwise waterways are an essential and integral part of the economic life of this country.

I should add that the opening of the Panama Canal gave an impetus to the entire Pacific Coast and also to large portions of Canada and the States by giving producers and shippers new outlets and routes at reduced rates. It also destroyed the market of our eastern lumber mills, forcing them either to close or enter the already saturated pulp and paper field. Incidentally when the coastal and intercoastal boats were requisitioned for war service,

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the railways immediately withdrew practically all their so-called water competitive rates.

MOTOR TRUCKS

It took about 2,000 years to learn to utilize horses, so you are not surprised that the Motor-truck was one of the forms of transport which received an impetus as recently as the previous World War when the railways of this Continent were over-burdened with freight.

With the passenger car it is playing increasingly an important and essential part in the national life of this Dominion, actually revitalizing and transforming thousands of isolated communities of which, for example, there were 2709 in the Province of Ontario, not directly served by a railway. It has been said indeed "that the motor truck has made every barn door a railway station.

At the outbreak of the previous War only two means of transport were ordinarily available—rail or water. Now a half million miles of highways, many good, others fair to bad, representing according to 1940 official records an expenditure of \$1,300,000,000 are in use. It is probably more correct to say, were used, by more than 1½ million vehicles registered in Canada and by that now extreme rarity the visiting tourist. In Ontario about 8,500 vehicles carry public goods, one-third of them over regular routes. In Quebec the number is somewhat less. Most, however, of the milk consumed in Toronto is now carried over the highways and more than half of the livestock. One authority asserts that 3,000 trucks have been counted in a single day between Toronto and Hamilton. This new type of competition has naturally had a disturbing effect on the railways working under controlled rates for the past forty years and some of them have acquired large fleets in an endeavour to recover lost ground.

The early reproach that truck owners catered only for high class goods is no longer justified when one considers the vast army of trucks hauling pulp-wood, lumber and war materials.

The rates charged by licensed public motor carriers were, I understand, originally based on the cost of operation rather than on the value of the freight or of the service, two of the factors considered by the railways. In the Province of Ontario cargo insurance is compulsory with a \$2,000 minimum per truck but in Quebec this is not so although most of the larger trucking companies carry insurance.

In Ontario it is understood that the rates and classification of goods are based on those charged by the railways in quoting the casual shipper but that lower rates are made for regular shippers. In some "controlled" districts such as between Toronto and Sarnia, where the trucking companies are in agreement, the rates are exactly the same as those of the rail lines. These rates include the usual carrier's risks but in these days it is well to examine carefully the terms of the bill of lading, and the insurance protection, including Workmen's Compensation and finally on C.O.D. shipments ascertain beforehand if such collections will be deposited to your account in a separate Trust Account by the operator.

In Quebec the trucks have not been as closely regulated. Some of the companies have freight tariffs, the majority I fear have not. Rates equivalent

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to the railway third class seem to apply fairly generally to large shippers except on bulky traffic such as Christmas boxes and millinery. All customers are not necessarily accorded the same rates on similar commodities. Sometimes the rates are $1\frac{1}{2}$ to 2 cents lower than rail, other times they are higher, on what the trucks call "express" service.

Trucking rates in general are also governed by the Wartime Prices and Trade Board, Administrator of Services, and if you were shipping by a particular truck line in the basic period (September 15 — October 11, 1941) covered by Orders-in-Council P.C. 8527/8, your rates via that line cannot be increased without the Administrator's permission. Rigid wartime regulations may lead to other steadying results. Some of these refer to load limits, others forbid light or empty runs between given points. The distance limit for private trucks is 35 miles. For example, our department stores and bakeries were obliged by the Truck Control of the Province of Quebec (Administrator of Services) to discontinue deliveries to points in the Laurentians, other means of transport being available. (This Order has also been suspended until December first).

Trucking lines plying as common carriers under Provincial licenses continue serving their routes but it may become more difficult or impossible to secure permits for the purchase of new trucks or tires and there is always the lurking danger of a gasoline quota. (It is doubtless well known that no commercial trucks are now being built). The truck operators also face the continued hostility of older forms of transport.

The firm which provides me with a modest living does comparatively little business by highway but it realizes the flexibility, speed and convenience of this form of transport and the influence it has had on the service, rates and attitude of other carriers and as its methods and practices are not as standardized as the railways and the inland water package carriers or as closely regulated as in the States, where there are 5 million non-military trucks, I have devoted a little more time to this comparative newcomer. One has only to consider the millions being spent on rushing through the 1,671 mile Alaskan highway, the defence work handled at our outposts and between munition plants and our mechanized war in general, to conclude that motor transport will play an increasing part in our future.

EXPRESS SERVICE

No Industrial Traffic Manager can overlook in these critical days the "Express Service" which dates from March 1839 when an ex-conductor of the Boston and Worcester Railroad, who had been carrying parcels for his customers for some years previous published a very flowery advertisement in the Boston papers about a car he had arranged to run through from Boston to New York about four times a week. Actually all he had was merely himself and a carpet-bag, which he carried on the train between Boston and Providence and then took the boat from Providence to New York.

The old adage "Mighty oaks from acorns grow" may well be applied to the express service which in one hundred years grew in the United States from one man to 75,000 employees, handling in the year 1941, 172,500,000 express shipments. Many of the old Wild West stories and some

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of the movies are based on the adventures of the Pony Express messengers via the overland stage route.

The express service in Canada was inaugurated in 1843 between Montreal and Troy by ferry across the St. Lawrence to Laprairie and by stage-coach and boat through to Troy, where connection was made by stage to Albany and New York. Mr. Gilman Cheney, who inaugurated the stage-coach express service between Montreal and Boston the next year and later to Toronto, became a very prominent citizen of Montreal, where he headed many charities and only a few years ago his son left a tremendous estate to hospitals and institutions in this city.

The speeding up of the L.C.L. freight and the free pick-up delivery, the introduction of C.O.D. collections and the fast service of the trucks and parcel-post services, have all had their effect on the business of the Express Companies, which, as you know, in Canada are usually owned and operated by the two main railways. One big firm I know which handles a lot of small packages finds it to advantage to make all shipments weighing 2 lbs. or less by Parcel Post unless the orders are freezable. There is really no minimum on express shipments—you can ship a whole carload by express in an emergency as long as you can afford to pay for it. Express cars, of course, are handled on passenger trains. One of the great advantages in shipping via express is that while freight cars, in Montreal at least, are closed at 6.00 or 6.15 each evening, if your goods were not ready in time you could load them in the express car yourself up to 11.00 p.m. by prior arrangement and they would be delivered at their destination—Toronto, for example,—first thing the next morning.

Express companies specialize in the handling of money, securities, jewellery, bullion and other valuables and an important feature is that shipments are generally under the continuous protection and care of an express employee from the time they are received from the shipper at point of origin until delivered to the consignee at destination. Their financial service is important; last year the money orders, including C.O.D., foreign and travellers' cheques, issued by the Canadian National Express alone had a total face value of \$40,846,848.

The Air-Express is invaluable in delivering machine parts in emergencies, in connecting packages and documents with ocean vessels whose movements have now become so uncertain, and in the development of our great north.

AIRWAYS

This leads naturally to a few words on the latest form of transport, namely the Air which outrivals the wildest flights recounted in the Arabian Nights. London is now as close to Montreal as Toronto and New York were in the last war, while Vancouver is reached in the time one took to go to Sudbury or to London, Ont.

A regular Air freight service between the Canal Zone and Buenos Aires, etc., has been recently established and the construction of vast fleets of freight cargo airships has its advocates in the United States. But in Canada the so-called "bush lines" have been flying men and supplies to remote areas since 1927, indeed one of the planes of the Canadian Airways, now C.P.R.,

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carried such large quantities that it became famous as "The Flying Box-car."

In five years these so-called bush lines carried safely 250,000 people. One could talk all night about the achievements and heroism of those intrepid pilots operating at 70 below zero without adequate landing fields but perhaps you will permit me to mention a movement nearer at hand.

Aluminum is one of the essentials in our war effort and as you know the largest plant in the Empire is at Arvida. In order to increase production more power facilities are required; in fact paper mills are now curtailing production to transfer electric power to Arvida. A dam had to be constructed on a tributary of the Saguenay, some 110 miles from the nearest point on my old railway, a mountainous forest region. Canadian Airways undertook to fly in 1,000 tons of supplies for the construction project and actually delivered well over 2,000 tons and some 1,800 men within a few months. The supplies included tractors, air compressors, engines and a complete steam shovel, two pieces of which, the base and the bucket, weighed 2 tons apiece. The strangest cargoes carried were 8 horses and 4 live bulls. There was nothing to show how horses reacted to travelling by air but the lively experiences with the first animal led to the doping of the balance. The bulls on the contrary seemed to consider the trip as part of the day's work, they were led into the cabin and packed around with bales of hay to keep them from moving in transit. These pioneer air developments simultaneously provided a great pre-war training school so that men were available immediately for the Atlantic and Pacific controls and for action in the Alaskan and Aleutian areas. Their technicians, operating and mechanical staffs were quickly in demand, their experienced and resourceful flyers are on all fronts.

The first world war made a great contribution to our land transport; this one tends towards a similar utilization of the air. You can be sure that the Army and Navy ferry planes do not return empty to either Canada or the States. Actually they are bringing tons of strategic materials from different parts of the world.

I should say something about the handling of claims for loss, damage and overcharge, which in some firms finances the entire cost of a Traffic Department. It may be that you are all too busy tracing shipments to worry about overcharges but a lot of errors might be expected on exports or imports which are handied about from one unusual port to another and no through rates in effect. My own firm found so many overcharges particularly on international traffic that a year or so after it was founded I addressed letters to four of the principal accounting firms pointing this out and suggesting that they round out their services by including the checking of freight charges and that we would undertake to do the work for them—further that we would not only certify to the correctness or otherwise of the rates but also if they were reasonable for the service performed. One of the firms replied that the tonnage of their clients did not warrant this service, the other three may still be considering the matter. We have since acted for one of these firms in a big cost distribution scheme.

It is of course one thing to file a claim and another to get it paid. I remember a famous claim sent in to the Canadian National Express covering

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the shipment of a goat from a station on my old Montfort Branch, which had been ordered by three spinsters operating a ranch in British Columbia. On arrival at Montreal the express employees took the goat out for a little exercise but a report came through that when he reached Victoria he was down on his knees and a few days later the consignees wrote that master Billy had no appeal for the opposite sex and therefore was useless for the purpose for which he was intended and quite a heavy claim was fyled, presumably for consequential damages. It is hardly necessary for me to say that this claim was declined.

OCEAN SHIPPING

Now for perhaps the most complicated part of the Traffic Manager's duties. The present war has well been termed "A War of Transport" with ocean shipping the great bottleneck. International trade on which the country normally depends, involving the shipping of goods overseas or between the Countries of the Americas, has resolved itself, under Wartime conditions, largely to a series of Controls. The way of the importer and the exporter is indeed hard.

The Steamships are controlled,—the space on the vessels is controlled,—the rates are controlled,—the movement of goods to seaboard is controlled, (the extent to which a railway car might be loaded is even controlled) and Parcel Post matter is controlled. Even the type of currency in payment of the goods and their carrying charger is controlled.

Certain goods (at least 2,000 articles) cannot be exported from Canada unless the Exporter is in possession of an Export Permit at \$2.00 each, issued by the Export Permit Branch of the Dept. of Trade & Commerce in Ottawa. There is a long fluctuating list of the commodities so controlled which is available from the Dept. of Trade and Commerce and it will be found that many of these commodities are on the uncontrolled list if shipped to a British Empire Country or within the confines of North America. These permits were first issued, good for four months, latterly three months and recently, to some destinations, are now being made good for six month period,—a very sensible change. There have been many instances of shippers in possession of permits good for four months being forced to apply to Ottawa for a fresh permit because the first one ran out,—shipping of certain commodities to certain areas has just been that difficult. When the regulations tighten while the goods are awaiting clearance, there is trouble indeed.

All British owned steamers are now operated by their owners for the account of the British Government through the United Kingdom War Transport Board and the same body also operates, for account of their owners, steamers of Danish registry. In co-operation with the U.K. Transport Board vessels of allied registry such as the Norwegian, Dutch, Free French, Belgian, Greek and others are operated by Committees set up by their Governments-in-exile. The Canadian Shipping Board collaborates with these various bodies.

The cargo space on all vessels available for goods is necessarily controlled in order that unneeded merchandise might not move to the exclusion of commodities of War and cargo vital to the needs of the country to which the vessel is plying. In Canada and the United States, Control bodies have been set up by the Governments of India, Australia, New Zealand, South

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Africa, the West Indies and others and these authorities definitely control what shall be carried on each and every sailing out of either Canadian or U.S. Ports. (In two islands as dissimilar as Iceland and Jamaica, the consignee actually arranges ahead for his Ocean space with his own Government Controller).

Traffic destined to the South American Republics including certain sections of the West Indies not British, is controlled in a somewhat less simple manner but no less effective. It is necessary for a shipper who might receive an order from a country Mexico and south to file a formal application also with the Shipping Priorities Committee in Ottawa which, after approval, transmits it to the Board of Economic Warfare, which then passes it along to the War Shipping Administration, both in Washington. Upon approval by these bodies, the shipment is given an Approval Number and is then passed on for presentation to the Steamship Lines operating in the affected Trade. As soon as an opportunity arises, the shipment is accepted by the Line and the Shipper notified. He must then secure from the Canadian representative of the Office of Defence Transportation,—our own Transport Controller in Montreal, an ODT Block Permit which allows him to move the traffic to seaboard. This system, which only came into effect on August 15th last, usually confines export shipments to those deemed essential by the importing country.

The exporter deals with a full half-dozen authorities. We telephone Ottawa or Washington every day and New York two or three times daily and we find the various Controls to be exceedingly co-operative.

On the North Atlantic Trade where almost all vessels ply to the British Isles the ocean rates have been kept on a very low basis, compared with the heights to which they soared in the War of 1914-18. Of course the rates have risen,—they had to rise due to the greatly increased cost of steamer operation,—but they have been kept within reasonable bounds. There have only been isolated cases which have come to my knowledge, in any Trades, of vessel operators trying to make a "killing" out of War Conditions and on the whole there are few who consider that any of the present ocean rates are out of keeping with the service performed in carrying goods to their destinations.

To avoid congestion of Ports, the movement of cargo to seaboard from interior manufacturing centres is controlled by the Railway Companies and I may say that this is not new — Canadian Railways have since the war of 1914-18 controlled export freight moving to seaboard but this War brought about the same control over traffic moving to U.S. ports. Even with this control there has been congestion, partially owing to losses or diversions, and very serious congestion, particularly at some of the American Gulf Ports,—recently very much relieved.

Let me give you one example out of the many. A small shipment left Montreal April 10th for New York destined to South America. The steamer was withdrawn and the shipment held there in Customs Storage until June 8th, when we reshipped it to New Orleans, for another vessel. This one was sunk inbound and the shipment again held in storage together with thousands of tons of other freight. Two opportunities to clear it from New Orleans were missed because the shipment could not be found; by the time

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it was found, the particular steamship service has been withdrawn. The goods were then reshipped to Los Angeles from which port it eventually cleared on Sept. 16th last. Many carloads of exports were returned to Canadian shippers at their expense from various ocean ports, between St. John and New Orleans.

I mentioned control even of Parcel Post matter. This might seem a small thing but some months ago when shippers of certain merchandise which the control bodies did not consider merited ocean freight space—found themselves cut off from their normal mode of shipping (by freight) and as their merchandise was valuable and could stand higher transportation costs, they resorted to shipment by Parcel Post and flooded the Postal Branch to such an extent that on certain sailings the Steamship Line was forced to allot about twenty times as much space to Parcel Post as was normal to them. This resulted very promptly in the Postal Branch passing a regulation limiting each shipper to the despatch each week of only one parcel to any individual receiver,—further this parcel which formerly might have been limited to from 11 to 25 pounds, was limited to 11 pounds only and of such a size that it was exceedingly difficult to even get 11 pounds into the package. Other commodities such as hats were banned altogether from the mails to the West Indies. This might seem to you like a small thing to mention when one is so prone to talk in terms of thousands of tons of ocean shipping but it is a serious thing to many manufacturers.

While the expense of shipping in times of War seems to be of secondary importance to that of moving the goods, nevertheless something should be said of the enormous increase in costs. A moment ago I said that the ocean freight rate situation was being well taken care of and this is so, but the steamer casualties which the Allied Nations have suffered has been reflected in the very heavy War Risk rates which are now current. Before the present war there was of course no War Risk premiums charged unless in a trade where war was imminent or feared. Speaking of the North Atlantic Trade for a moment, War Risk rates began slowly to come to notice from the time of Munich and from that time until War was declared fluctuated back and forth according to the best information on World conditions available to the Underwriters. Once War became a real thing, the War Rate jumped at once and all underwriting being then done by Commercial Companies or Associations like Lloyds in London, the costs of goods arriving in the British Isles naturally increased on this account. The British Government shortly after the war broke out formed the British War Risk Office which took on the underwriting of cargo at much lower rates than those in effect on the open Insurance Market. This situation still applies with the Government Rate only about a third of the Commercial Rate. This action has undoubtedly kept the British cost of living down and has also undoubtedly kept the Commercial War Risk rates within reason.

To other areas where British Government War Insurance has not been available, we have not been so fortunate. To South America in the height of the U-Boat operations on the American East Coast the War Rate rose as high as 25%. It is encouraging to note that within the past two months, due undoubtedly to the success with which this menace has been met,—this

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rate and others have dropped twice and the South American War rate now stands at 17½%.

Within the past two months the American Government has followed the lead of the British Government and instituted its own War Risk Office in Washington under the War Shipping Administration. So far there is no definite sign of Ottawa following suit.

Time does not permit more under the heading of Marine and War Risk Insurance except to say that the war has brought into being forms of Insurance and Insurance costs of which we knew nothing in Peace time. These are the Marine Wartime Surcharges on all marine premiums,—Wartime Extension Clause (Marine) and War Transshipment Clauses, the latter to protect shipments at a known premium cost against the risks of transhipment, deviation, etc. due to the exigencies of War.

Before I leave this question I would like to stress its importance because whereas in normal times the Insurance cost in the landed price of goods was a very inconsiderable item,—to-day it usually stands as the main item of cost. As an instance, my company last week completed the movement from seaboard to Brazil of a large shipment of a raw commodity of Canada and whereas the total freight expense was about \$7,000 the Insurance Costs exceeded \$11,000.

One other Control which should not be forgotten is that of Currency. Again time does not permit more than one example of the control of Currency by the Foreign Exchange Control Board in Ottawa but this important and efficient body was conceived and its plan worked out long before it ever came into official being and while it has caused us all a great deal of work and a great many headaches, it is recognized as a control of very great importance and necessity. Here is the example which is not unusual:

A firm in England sells goods to a house in South Africa (or in any Sterling Area) and places the order with a firm in Canada to supply and ship to South Africa. The firm in England sends full particulars to us so that we may see that all requirements are met by the Canadian supplier, thus permitting us to apply for ocean space as already described. When the shipment is finally cleared from seaboard we cable England for the total charges in Canadian Funds. The shipment having been carried on a vessel operated from New York, let us say, and owned by a resident of the Sterling Area, we must pay the steamship operator in Registered U.S. Sterling equivalent to the freight charges he has billed us in U.S. funds. (The N.Y. Forwarder who took out B/L is paid in U.S. funds). To enable us to get this "exchange" from the banks we must state the name of the vessel, the names of the Owners and Operators and where they are registered—sometimes no easy task.

As the picture of Ocean Shipping looks to-day it may be a long time before an Exporter can look forward to the conditions of the good old days when competing steamship solicitors camped on his door-step looking for the same export shipment but while the improvement is slight—nevertheless there have been signs during the past month or a distinct improvement in certain trades which during the last year have been exceedingly difficult. This improvement must not be allowed to influence any of you to rush off and get your goods packed up and ready to go, however, because this War

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cannot be won without carrying the War to the Enemy and that can only be done by Sea,—hence ships and more ships and still more ships must be utilized for this direct War purpose and International Trade must at that time take second, or if need be, twenty-second place. If the War is not won, there won't be very much International Trade for any of us to worry about.

I have dwelt upon the export situation but comparable regulations and difficulties and expense apply to imports. To be safe, an application should be made to the Canadian Priorities Committee at Ottawa in addition to checking with the Department of National Revenue. Many commodities are entirely prohibited, others, such as tea, coffee, cocoa-beans, wool, are in the main distributed through British or American Official Controls and locally through Canadian Government agencies. Happily the number of import circular instructions is much less even if United States regulations including Form P.D.-222-C must also be observed on imports in transit to Canada. There are also frequent changes and concessions in Canadian Customs Tariffs to consider.

In conclusion while I have only been able to skate around the edges, you have probably concluded that to be a good Traffic Manager, it requires the patience and ability of a lawyer, accountant and diplomat. By actual count 53,485 freight, passenger and express tariffs and supplements were presented to the Board of Transport Commissioners at Ottawa last year for examination and acceptance so one can hardly be familiar with them all but the qualified Traffic Manager is soon able to separate the wheat from the chaff, many of these tariffs not affecting his business. My own office receives an average of 35 tariffs and supplements daily, covering from Coast to Coast and south to, and including, Mexico. Now that exports and imports can move all rail to and from Central America, we are expecting railway tariffs from Guatemala, Salvador and Honduras, presumably in Spanish.

There are so many complications now, many of which I have not dealt with, that the fying of drawbacks on imported material, utilized as part of an export shipment, the intricacies of exporting or importing under the rigid control system, the securing of ocean space and the routings to some 18 different American ports, plus the extra insurance, including the hazards for which the carriers, inland and ocean, will not accept liability, require intimate knowledge and more and more firms do not hesitate to turn these matters over to reliable Freight Forwarders, thereby releasing the energies of their Traffic Departments for the multitudinous duties which daily and nightly fall to the lot of the Traffic Manager, with manpower at a premium.

Before sitting down I should like to stress that your Traffic Manager, to be effective, must control the routing of your merchandise or your supplies; of course where the latter are purchased f.o.b. destination, beyond specifying the method of delivery, the initial routing is probably in the hands of the supplier. The point, however, I wish to make is that the Traffic Manager is an expert in the complicated business of transportation. He is the one to whom the carriers normally look for patronage and information. He in turn looks to them for reasonable freight rates and service, sometimes an emergency movement. It is surely obvious that unless he controls the routing his influence with the carriers is reduced to a low ebb.

If Canada's peak production is reached early in 1943 and that of the

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United States a few months later, it goes without saying that every available means of transport will be taxed to the limit. It would seem fitting, therefore, for the different transport operators and services to set an example in unity to the rest of the country and laying aside past prejudices, co-operate together to the utmost. The Association of American Railroads has a fine slogan, "Teamwork for Victory!" which might well be extended to include not only the other transportation agencies but every man, woman and child in North America.

As for my kind hosts of the Cost and Management Institute, if I may speak on behalf of Industrial Traffic Management, each of us has likely a long uphill road before us. It will keep us both in good heart and shorten the journey appreciably if we can travel it together.

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